

sheath balloon 24 and by closing off the central lumen of the sheath 20 the particles and other debris will not move very far downstream.

Fig. 19 shows the balloon 280 being deflated as the primary fluid 32 is injected. The induced retrograde flow 36 sweeps the loose particulate into 5 the open lumen of the sheath 20 providing a completely hydraulic form of distal protection. In use the catheter 320 can be withdrawn into the sheath to completely remove particulate liberated by the angioplasty process.

10 1. What is claimed is:

1. A method of distal protection in a vessel comprising:

inserting and positioning an occlusion device in said vessel;

treating a lesion in said vessel at a site near said occlusion device.

15 inserting a catheter having an extraction section to a location near said occlusion device;

supplying a fluid to said extraction section to engage and entrain debris at the site of said distal occlusion device generating an entrained flow.

providing an extraction lumen proximal of said extraction section to

20 receive said entrained flow.

2. The method of claim 1 wherein:

said extraction lumen is advanced over said extraction section to further extract debris while said extraction section is approximately stationary in said vessel

5    3.    The method of claim 1 wherein:

      said extraction section is advanced toward said occlusion device while said extraction lumen remains relatively stationary in said vessel.

4.    The method of claim 1 wherein:

      said supplying step occurs while the occlusion device is deflated after the intervention.